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Callahan Mine Superfund Site
Community Update
August 2019

2019 Update: The United States Environmental Protection Agency (EPA) and Maine Department of Environmental Protection (MEDEP) continue to their efforts to implement the cleanup of the Callahan Mine Superfund Site.

The following activities are ongoing at the Callahan Mine Site:

- Periodic inspections of the cleanup work completed to date along with performance sampling of the passive bioreactor and measurement of flow and measurement of water levels in the Tailings Impoundment;
- Annual sampling of residential wells; and
- Groundwater sampling and water level monitoring.

During the fall 2018, a field program was implemented to assess the chemical and physical properties of the on-site mine waste rock to determine whether that rock could be used rather than developing an on-site quarry with the associated blasting activities. Other activities performed in 2018 included surface geophysics and soil borings in Waste Rock Pile #3 to assess the depth and quality of the waste rock in that area. Test pits were also completed at Waste Rock Pile #3 and other waste rock piles to evaluate the quantity and quality of available rock.

Activities to be performed in 2019: EPA anticipates the following activities for the remainder of 2019:

- Installation of the geotechnical monitoring instrumentation (inclinometers and vibrating wire piezometers) along the toe of the tailings impoundment. Some geotechnical monitoring instrumentation may also be installed along the crest of the tailings impoundment.
- Soil borings to better refine the depth of the overburden material and evaluate shallow bedrock properties along the toe of the tailings impoundment.
- Soil borings to further refine the volume of Waste Rock Pile #3.
- Repair of damaged monitoring wells.
- Performance of the groundwater pumping test to obtain additional information regarding the flux of groundwater into the tailings impoundment.
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The data collected during 2018 and 2019 will support technical evaluations to: refine the cleanup approach to address the stabilization of the tailings impoundment during construction and long-term; develop methods to obtain necessary material for construction activities without on-site blasting; improve the conceptual model regarding the potential dewatering of the tailings impoundment; and evaluation of closure options for Waste Rock Pile #3. These technical evaluations will shape the work plan for the construction activities that are anticipated to begin in 2020.

In 2019, MEDOT is expected to submit the draft final design for to address the sediments in Goose Pond and overall site restoration;



Possible 2020 Activities:

- Periodic inspections of the cleanup work completed to date along with performance sampling of the passive bioreactor and measurement of flow and measurement of water levels in the Tailings Impoundment;
- Annual sampling of residential wells;
- Groundwater sampling and water level monitoring;
- Construction of toe stabilization measures along the toe of the tailings impoundment;
- Installation of additional geotechnical monitoring instruments; and
- Additional measures to lower the water levels in the tailings impoundment.

The work to stabilize the tailing dam by reducing the height of the tailing dam and relocating tailings would be performed in 2020.

Background:

The Callahan Mine Superfund Site is located in the Town of Brooksville, Hancock County, Maine. The Site is the former location of a zinc/copper open-pit mine. The mining operations were conducted adjacent to and beneath Goose Pond, a tidal estuary.

The major mining operations occurred from 1968-1972, although there were some limited mining activities from 1881 to 1887. For the open-pit mining operation, two dams were constructed at the saltwater inlet and freshwater inlet of Goose Pond. Fresh water that normally flowed into Goose Pond was diverted south to Weir Cove via a drainage ditch. Goose Pond was subsequently drained to allow for the excavation of the mine. After the mining operations ended in 1972, the dam at Goose Falls was opened, flooding the mine site. The ore contained zinc, copper, lead, and trace silver along with cadmium and arsenic. Figure 1 shows the operational areas for the Callahan Mine during operation. The Site includes the following areas:

- A 21-acre tailings impoundment containing the process waste from the floatation mill.
- Three waste rock piles covering about 27 acres and containing overburden rock and low grade ore: Waste Rock Pile 1 (19 acres); Waste Rock Pile 2 (6 acres); and Waste Rock Pile 3 (2 acres).
- The former processing facility (Mine Operations Area).
- The ore storage area (Ore Pad).
- Goose Pond estuary and associated wetlands.
- A mine pit and associated shafts and adits, which are all under Goose Pond. The pit was 600 feet wide and 320 feet deep at the end of the mining activities.

The Site was listed on the National Priorities List (“NPL”) on September 5, 2002.

EPA began the Remedial Investigation and Feasibility (“RI/FS”) for the Site in 2004, although some preliminary RI/FS activities began in 2003. In June 2005, the Maine Department of Transportation (“MaineDOT”) took over the RI/FS pursuant to an Administrative Order on Consent (“AOC”) between EPA and the State.

Based on the September 2009 EPA Record of Decision for Operable Unit 1 (“OU1”) and September 2013 Explanation of Significant Differences (“2013 ESD”), EPA is implementing the cleanup for the Callahan Mine in three distinct phases.

Phase 1 (Operable Unit 1) includes the cleanup of the arsenic, lead, and thallium contamination in several residential properties along with the cleanup of the PCB contamination in the former Mine Operations Area. As part of the Phase 1 actions, the waste rock and remnant ore at the Ore Pad was removed and placed on the Tailings Impoundment. The Phase 1 (Operable Unit 1) cleanup actions were completed in 2013.

Phase 2 (Operable Unit 2) is the study of the groundwater contamination and waste rock outside the major waste areas. This component of the cleanup is still in the investigation phase.

Phase 3 (Operable Unit 3) includes the stabilization of the Tailings Impoundment and removal of sediments and soils from the salt marsh and southern portion of Goose Pond and placement of the excavated sediments and soils into an on-site Confined Aquatic Disposal Cell (former Mine Open Pit). The Phase 3 cleanup is being implemented in two components. The first is the stabilization of the Tailings Impoundment. The design for this work was completed in 2015 and the cleanup began in 2015 with the installation of a horizontal drain to facilitate drainage of the Tailings Impoundment. The work to stabilize the Tailings Impoundment will continue through 2020. The design for the sediment cleanup is ongoing and will be completed in 2019.

In 2018, the United States Army Corps of Engineers (USACE), working for EPA, awarded a contract to Environmental Quality Management, Inc. to perform the cleanup activities at the Callahan Mine Superfund Site.

Figure 2 shows the areas that have been identified for cleanup actions. More information about the Callahan Mine Superfund Site can be found at the EPA website:

www.epa.gov/superfund/callahan.

Site Contacts:

EPA Remedial Project Manager

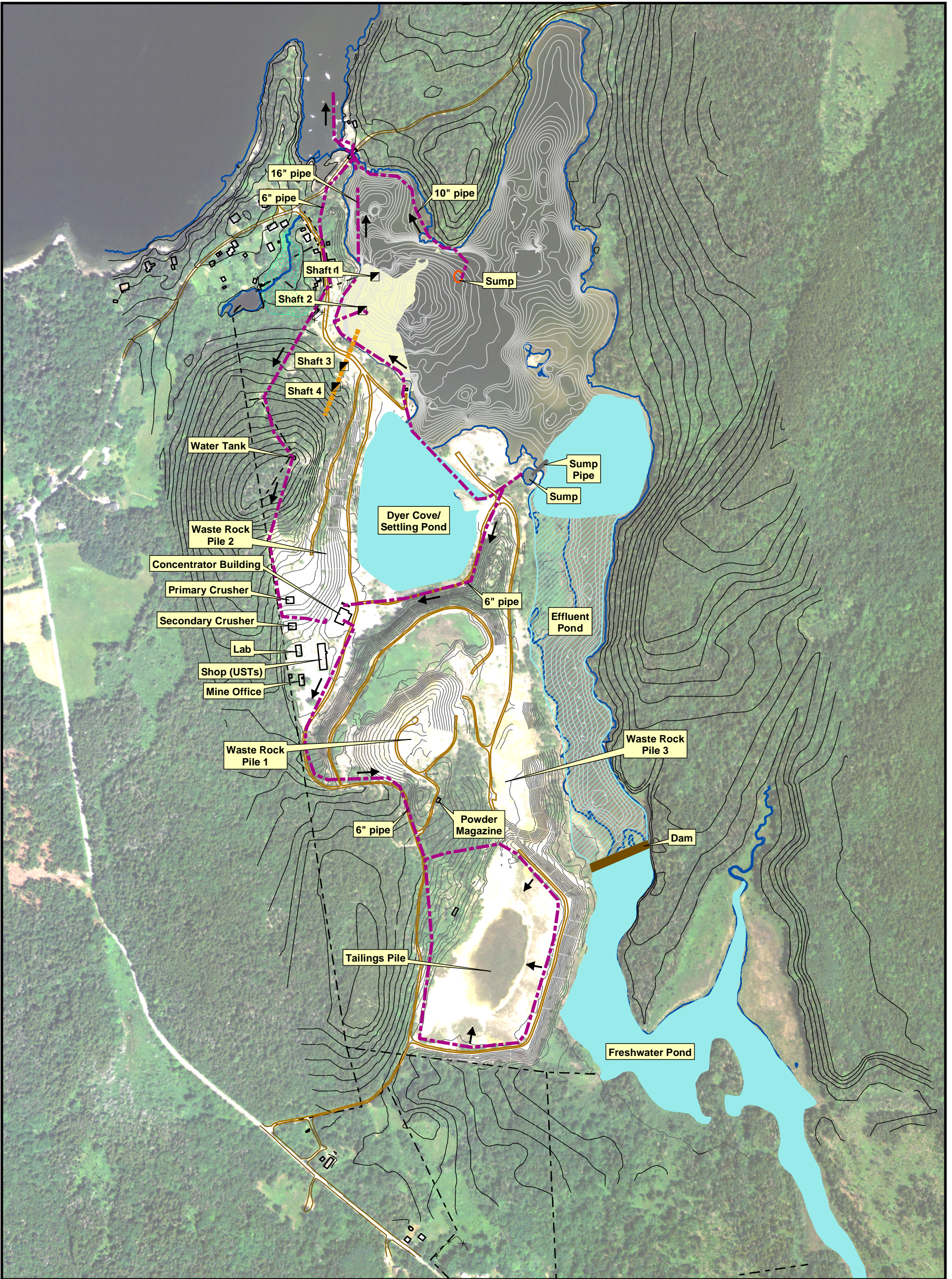
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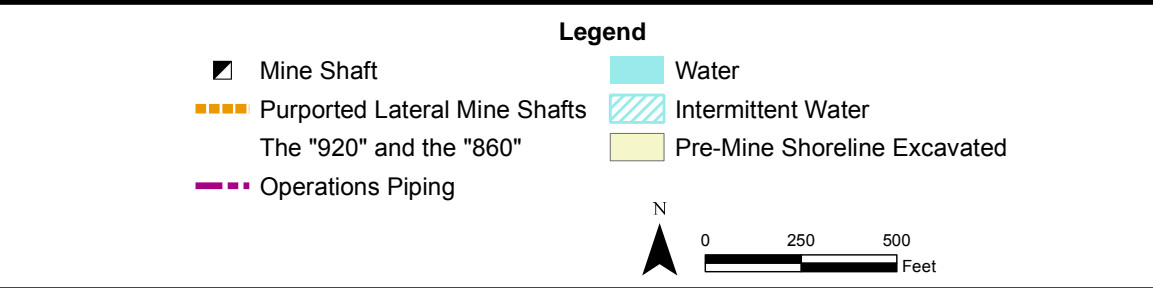
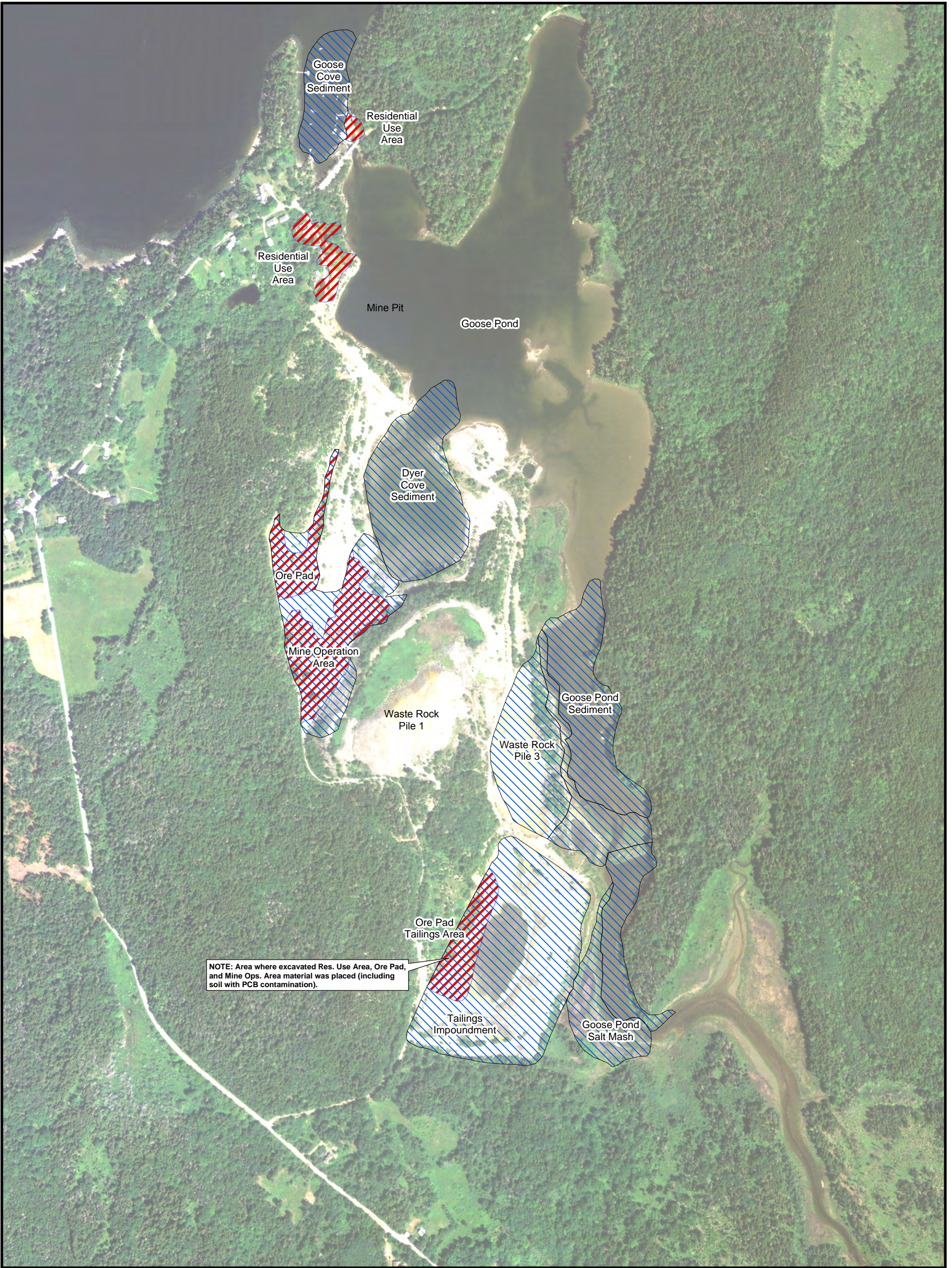


Figure 1
Former Mining Operations
Callahan Mine Superfund Site
Brooksville, Maine



NOTE: Area where excavated Res. Use Area, Ore Pad, and Mine Ops. Area material was placed (including soil with PCB contamination).



- Legend**
- Areas for OU3 Remedial Action
 - Areas for OU1 Remedial Action

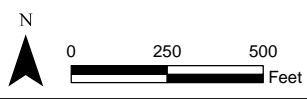


Figure 2
Remedial Action Areas

Callahan Mine Superfund Site
Brooksville, Maine

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